

AMENDMENTS TO THE CLAIMS

1. (Previously amended) A process for producing a polyamide with titanium dioxide pigments, comprising:

dispersing the titanium dioxide pigments in a mixture containing water and caprolactam with an apparatus, said apparatus comprising

a dispersing chamber,

a disk-shaped rotor disposed in said dispersing chamber,

a stator which has radial openings and is disposed in conjunction with said rotor in a dispersing zone of said dispersing chamber,

a product inlet on each side of said rotor, such that the confluence of two product streams from each of the product inlets is disposed in the outer peripheral region of the disk-shaped rotor, and

a product outlet at the outer periphery of said dispersing zone of said dispersing chamber,

by feeding the titanium dioxide pigments through one of said product inlets and the mixture, containing water and caprolactam, through the other said product inlet to said dispersing chamber, and obtaining a product mixture, containing water, caprolactam and the titanium dioxide pigment from said product outlet, and

polymerizing said product mixture to form the polyamide containing titanium dioxide pigments and wherein water is removed from the product mixture before or during the polymerization,

wherein an average mean pressure build-up of the polymerized product, determined as a difference between a final pressure and an initial pressure upstream of a filter, divided by an amount put through, is about 7 bar/kg.

2. (Previously presented) A process as claimed in claim 1, wherein the mixture containing water and caprolactam further comprises a dispersing assistant.

3. (Cancelled).

4. (Previously presented) A process as claimed in claim 1, wherein additional caprolactam is added to the product mixture before or during the polymerization.

5. (Previously amended) A polyamide containing titanium dioxide pigments obtained by a process as claimed in claim 1 comprising:
a polymerized product mixture of titanium dioxide pigments and caprolactam;
wherein an amount of titanium dioxide pigments in the product mixture ranges from 1 to 50% based on total the total weight of the product mixture, and
wherein the titanium dioxide pigments have a mean average particle size of less than 1.2 μm .

6. (Previously presented) The use of a polyamide containing titanium dioxide pigments obtained by a process as claimed in claim 1 as a masterbatch for delustering or coloration of a polymer.

7. (Previously presented) The process of claim 1, wherein the product inlets have an axial channel section.

8. (Previously presented) The process of claim 1, wherein the mixture containing water and caprolactam includes a weight ratio of water:caprolactam from 1:1 to 99:1.

9. (Previously presented) The process of claim 8, wherein the ratio of water:caprolactam is from 4:1 to 97:3.

10. (Previously presented) The process of claim 1, wherein the mixture containing water and caprolactam and the titanium dioxide pigments are added to each of the product inlets in a weight ratio of pigment:mixture from 1:99 to 1:1.

11. (Previously presented) The process of claim 10, wherein the ratio of pigment:mixture is from 15:85 to 1:3.

12. (Previously presented) The process of claim 1, wherein the titanium dioxide pigments have a mean average particle size of less than 1-2 microns as measured by optical microscopy.

13. (Previously presented) The polyamide as claimed in claim 5, wherein the amount of titanium dioxide pigments in the product mixture ranges from 5 to 45% by weight based on total the total weight of the product mixture.

14. (Previously presented) The polyamide as claimed in claim 5, wherein the amount of titanium dioxide pigments in the product mixture ranges from 8 to 40% by weight based on total the total weight of the product mixture.

15. (Previously presented) A polyamide containing titanium dioxide pigments comprising:

a polymerized product mixture of titanium dioxide pigments, water, and caprolactam; wherein an amount of titanium dioxide pigments in the product mixture ranges from 1 to 50% based on total the total weight of the product mixture, and wherein the titanium dioxide pigments have a mean average particle size of less than 1.2 μm .

16. (Previously presented) The polyamide as claimed in claim 1, wherein the product mixture comprises a dispersing assistant.

17. (Previously presented) The polyamide as claimed in claim 1, wherein an amount of the dispersing assistant ranges from 0.1 to 1.0% by weight.

18. (Cancelled).

19. (Previously presented) The polyamide as claimed in claim 1, wherein the amount of water is 93.8%, the amount of caprolactum is 6.0%, and the amount of disperant is 0.2% by weight.

20. (Previously presented) The polyamide as claimed in claim 1, wherein an average mean pressure build-up of the polymerized product, determined as a difference between a final

pressure and an initial pressure upstream of a filter, divided by an amount put through, is about 7 bar/kg.